

REMARKS

Applicants respectfully request reconsideration. Claims 1-17 were previously pending in this application. In this response, Applicants have added dependent claim 18. As a result, claims 1-18 are pending for examination with claims 1, 8, 10, 12, and 14-17 being independent claims. No new matter has been added.

Applicants acknowledge the courtesies extended by Examiner Novacek during a telephone interview on April 28, 2008. The substance of the interview is summarized in the remarks set forth herein below.

Objections to the Specification

The disclosure was objected to because of the following informalities:

At line 26 of page 25, "Fig. 3A" should be changed to read "Fig. 3B".

At lines 15-16 of page 26, "a platinum or platinum catalyst layer 5" should be changed to read, "a platinum or platinum catalyst layer 4".

At line 4 of page 28, "he" should be changed to read "the".

Applicants have herein amended the specification as required in the Office Action. In addition, Applicants have amended line 20 of page 35, "too" changed to read "to". Accordingly, withdrawal of this objection is respectfully requested.

Rejections Under 35 U.S.C. §102

Claims 1-17 stand rejected under 35 U.S.C. 102(e) as being anticipated by Andriessen et al. (U.S. Patent No. 6,929,970). In particular, the Examiner contends that Andriessen discloses coating a paste containing a binder and semiconductor nanoparticles dispersed therein on a transparent conductive substrate, and forming the semiconductor electrode by drying the paste, thereafter pressing the paste to bond the semiconductor nanoparticles onto the transparent conductive substrate while heating it to a temperature between 0-250°C.

Andriessen describes a process for preparing nano-porous metal oxide semiconductor layers. In this regard, the process includes wet precipitating semiconductor nanoparticles, heating the nanoparticles to a temperature range between 250 to 600°C to form a dispersion, and applying the dispersion to a support at a pressure of 100 to 1000 bar below 250°C.

Andriessen does not disclose a paste containing a *binder* and semiconductor nanoparticles dispersed therein. The nano dispersions described in Andriessen include powders that are converted to paste by addition of water, ethanol, and nitric acid (see col. 10, lines 17-26), neither of these materials constituting a binder. In fact, Andriessen gives motivation for not using a binder in forming nanostructured films, teaching that binder addition can consequently affect solar cell efficiency (see col. 2, lines 23-45). In this regard, independent claim 1 should be allowed on the basis that there is no paste containing a *binder* and semiconductor nanoparticles dispersed therein found in Andriessen.

Additionally, Applicants have amended independent claims 1, 8, 10, 12, and 14-17 to recite pressing the paste including contacting the paste with a device suited for pressing. As discussed in the interview, Andriessen does not disclose *pressing the paste* to bond the semiconductor nanoparticles onto the transparent conductive substrate, wherein pressing the paste includes *contacting the paste* with a pressing device. Applicants have described that typical methods that may be used to press the paste include press molding by a flat plate press, roll press by rolls, for example, or rolling (calendar), among others (see specification, page 9, lines 15-19). The Examiner agreed that in Andriessen, the pressure applied to the coatings are through sintering and not by any manner of physical pressing as described by the Applicants. In this respect, independent claims 1, 8, 10, 12, and 14-17 should also be allowed on the basis that even though the coating of Andriessen may be pressure sintered, there is no indication of a *paste that is pressed*.

Similarly, dependent 2-7, 9, 11, and 13 should be allowed for the same reasons as stated above for the independent claims from which they depend.

Accordingly, withdrawal of this rejection is respectfully requested.

New Claim 18

Applicants' representatives also discussed with the Examiner non-limiting examples of what materials may constitute a binder, separate from the combination of water, ethanol, and nitric acid, as given by Andriessen. Applicants have added new claim 18 directed to group of example materials that the binder could be made from. Support for this claim may be found in the specification, at least, on page 14, lines 1-12. As claim 18 depends directly from independent claim 1, this claim should be in condition for allowance for at least the same reasons.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Date: May 13, 2008

Respectfully submitted,

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